REMARKS

Applicants amend claim 15. No new matter is added. Support for the claim amendment can be found throughout the specification and at least at Page 3, lines 5-21, Page 10, lines 1-12 and lines 20-24. Upon entry of this amendment, claims 15-24 are presented for examination. Applicants respectfully submit that claims 15-24 define over the art of record.

Applicants note with appreciation that the Examiner deems dependent claims 23 and 24 to recite patentable subject matter.

Information Disclosure Statement

Applicants submit herewith a supplemental Information Disclosure Statement citing references that were cited in the corresponding Japanese patent application on January 10, 2007.

Claim Rejection Under 35 U.S.C. §102

Rejection of claims 15, 21, and 22 under 35 U.S.C. §102(e)

Claims 15, 21, and 22 are rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent No. 6,916,563 to Yamamoto et al. (hereafter "Yamamoto") and United States Patent Application Publication No. 2004/0013919 to Ueda et al. (hereafter "Ueda"). Applicants submit herewith a certified English translation of the priority document to perfect the priority of the present application. Hence, the Yamamoto reference and the Ueda reference are disqualified as prior art because their earliest U.S. priority date October 23, 2002 and July 16, 2006 are both after the earliest priority date October 3, 2002 of the present application.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejections under 35 U.S.C. §102(e).

Rejection of claims 15 and 16 under 35 U.S.C. §102(b)

Claims 15 and 16 are rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 6,426,158 to Pratt et al. (hereafter "Pratt"). Applicants respectfully submit that the Pratt reference does not disclose the limitation of diluting the hydrogen gas in the reservoir after stopping generation of electric power, as recited in amended claim 15.

The Pratt Reference

The Pratt reference discloses a method of diluting reacted fuel gas that is exhausted from a fuel cell to safe levels prior to releasing the gas into the open air. The Pratt reference is silent about discharging reacted fuel gas after stopping operation of the fuel cell. Hence, the Pratt reference does not disclose the limitation of diluting the hydrogen gas in the reservoir after stopping generation of electric power, as recited in amended claim 15.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 15.

Rejection of claims 15, 21, and 22 under 35 U.S.C. §102(b)

Claims 15, 21, and 22 are rejected under 35 U.S.C. §102(b) as being anticipated by Japanese Patent Application Publication No. 2000-357530 (hereafter "JP'530"). Applicants respectfully submit that the JP'530 reference does not disclose the limitation of diluting the hydrogen gas in the reservoir after stopping generation of electric power, as recited in amended claim 15.

The JP'530 Reference

The Examiner alleges on Page 5 of the Office Action that it is obvious to perform the step of supplying air to the reservoir after stopping generation of electric power while operating the apparatus in the JP'530 reference because such a step would allow the apparatus, upon shutdown, to be in a state where residual hydrogen is not present in the exhaust pipes and reservoir, thereby increasing the safety of the apparatus. The Examiner further alleges that it would be obvious to perform the steps recited in claims 19 and 20 because it is known that the hydrogen is ignitable in air at a concentration of approximately 4 % by volume and hence it would be obvious to purge the hydrogen from the reservoir until this condition is met. Applicants respectfully disagree.

The JP'530 reference is directed to maintaining moisture in the polyelectrolyte film by recycling moisture in the exhaust gas to reduce the consumption of water in the polyelectrolyte film. There is no teaching or suggestion in the JP'530 reference that the residual hydrogen in a reservoir would impair the safety of the vehicle. The Examiner also does not provide any evidence that the residual hydrogen in the reservoir would impair the safety of the vehicle. The Pratt reference discloses that release of hydrogen into the open air may create a safety hazard if the concentration of hydrogen is above 4 % by volume. See Col. 2, lines 28-31. However, Applicants respectfully submit that the reservoir environment is not equivalent to an open air environment. There is no danger of having sparks in the reservoir while there are plenty of spark sources in the open air environment.

Accordingly, the JP'530 reference does not disclose the limitation of diluting the hydrogen gas in the reservoir after stopping generation of electric power, as recited in amended claim 15. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 15.

Applicants note that the dependent claims also recite patentable subject matter. As such, for this and the reasons set forth above, Applicants respectfully submit that the dependent claims also define over the art of record.

Claim Rejection Under 35 U.S.C. §103

Claims 16-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over the JP'530 reference. Applicants respectfully submit that the JP'530 reference does not teach or suggest the limitation of diluting the hydrogen gas in the reservoir after stopping generation of electric power, as recited in amended claim 15, that claims 16-20 depend.

As set forth above, the JP'530 reference does not disclose the limitation of diluting the hydrogen gas in the reservoir after stopping generation of electric power. Applicants respectfully submit that the JP'530 also does not teach or suggest this limitation.

The present invention addresses the problem of unpurged hydrogen remaining in the reservoir for dilution that would disadvantageously diffuse or expand spontaneously after stopping generation of electric power and flow back to the fuel cell stack and piping. If hydrogen flows back into a cathode system, reaction occurs at the electrolyte membrane, and deteriorates the membrane. This phenomenon would never take place during generation of electric power because during normal operation, a cathode gas is always flowing and would not flow backward to the cathode system. Hence, the claimed invention is different in both objective and expected effects when compared to the JP'530 reference a. Accordingly, the claimed invention is not obvious in view of JP'530 reference.

Hence, Applicants respectfully submit that it is not obvious to one ordinary skill in the art to perform the step of supplying air to the reservoir after stopping generation of electric power while operating the apparatus in the JP'530 reference. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 16-20.

CONCLUSION

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Applicants believe no fee is due with this statement. However, if a fee is due, please charge our Deposit Account No. 12-0080, under Order No. IIW-031 from which the undersigned is authorized to draw.

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Respectfully submitted,

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